
ADSC/WSDOT Team Members

March 20th, 2006

Members In Attendance

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Weller, Chuck	Continental Supply	530-681-9312	chuckweller@continentalsupply.net

The meeting began at 8:30 AM.

1. Review of Previous Meeting Minutes

The previous meeting minutes were reviewed and approved.

Action Plan:

- No action needed.

2. Constructability Review – Sullivan Creek

Geoff Swett gave a short presentation on the Sullivan Creek Bridge which is currently being designed. This is a single-span, curved steel plate girder bridge with integral abutments. Each abutment is supported by three steel H-piles that are installed in a 4'-0" drilled shaft. To provide adequate axial capacity, the bottom twenty feet of shaft is filled with a reinforcing cage and concrete. The upper portion of the pile is backfilled with granular fill. This provides a support system that is flexible enough to accommodate thermal movement of this curved structure. The casing in the upper portion of the shaft will need to be removed.

Don Morin suggested that this could be constructed with two casings, using an oversized top casing. This will allow easy removal of the upper portion of casing. There was discussion about the need for the reinforcing cage in the concrete portion of the shaft. The cage may be challenging to install, and will also complicate the concrete placement. Geoff said that it may be possible to eliminate the reinforcing cage. He will look at this. Also, wet setting of the beam inside the shaft was suggested and if studs could be welded to the inside flanges of the beam.

It was suggested that this would be easier to construct if it was a conventional concrete shaft rather than a hybrid steel/concrete pile. Geoff replied that a conventional shaft doesn't provide the necessary flexibility for thermal movements. It was pointed out that CSL testing of the lower portion of the shaft may be difficult because of access.

Alan asked about the quality of the rock. Geoff said that rock samples had been taken and tested, and data was available.

ADSC will provide formal, written comments to WSDOT.

Action Plan:

- Alan to provide written constructability comments to Mo prior to the next meeting.

3. Action Item Update

A. Soldier Pile Wall Design Memorandum

Mo passed out a design memorandum from Bridge and Structures for soldier pile tieback walls. This memorandum makes the following changes to the design practice.

- Allows use of CDF for piles in the dry.
- Allows pumpable lean mix for piles in the wet.
- Requires evaluating construction loading on pile design.
- Requires plans to show maximum expected lateral deflection of the piles.
- Encourages considering shotcrete facing in lieu of CIP facing.

Contents of this memorandum will be part of the August amendments to the Standard Specifications. On current projects, the Contractors may request incorporating this revised specification into the contract.

ADSC Members had no comments on this design memorandum.

Action Plan:

- No action needed.

B. Noise Wall/Sign Bridge Shaft Prequalification Update

This issue had been presented to both the AGC Roadway Team and the AGC Structures Team. Both Teams are in general agreement with prequalification criteria. The Structures team requested to have separate bid items for the drilled shafts. WSDOT agrees, and is targeting an August implementation of this change.

Action Plan:

- Mo will continue to inform the Team on this topic as it clears the AGC Roadway Team

C. Specials Changes Allowing Use of Bentonite

The Special Provisions have been revised to allow the use of mineral slurry. Section 3.04 F requires the Contractor to clean the sides of the shaft to remove slurry build-up if the shaft is open for longer than 48 hours. Mark E. asked about the use of the word

“all” with regards to slurry removal. The Team agreed that it would be better to say “remove the slurry buildup” rather than “remove all slurry buildup.”

John Berry expressed concern about Section 3.04 F. He pointed out that the slurry cake is what is keeping the hole open. Removing this cake may compromise the stability of the shaft. The Team discussed this and agreed that the intent of the Specification is to remove the excess mineral slurry. The Specification will be left as-is for the time being.

The Team also reviewed section 3.05 D. This is only a concern when temporary casing is used, and permanent casing should be removed from this Section.

Action Plan:

- Mike Bauer to modify the Special Provisions as described above.

D. Letter to the National ADSC

A draft letter has been written. Mo will send this to Alan for review.

Action Plan:

- Mo to send National ADSC letter to Alan for review.

E. Revisions to Shotcrete Wall Testing

Mo has been working on this, but needs a little more time. So far, he doesn't see any issue with modifying the Specification as discussed at the previous meeting. He will provide an update at the next meeting.

Action Plan:

- Mo to continue working on this issue and provide an update at the next meeting.

F. Fascia/Shotcrete Wall Composite Design Behavior

Geoff understands that the shotcrete is not considered composite with the CIP fascia. He will investigate further, and either him or Patrick will report at the next meeting. If the design is not composite, it was questioned why the shotcrete has a required final design compressive strength.

Action Plan:

- Geoff (or Patrick) give report at next meeting.

F. Pressure Gage Graduation

The Team discussed this further. It was decided to require gage increments that are 2% (or less) of the maximum test load. The Specification will be updated accordingly.

Action Plan:

- Mo to update Standard Specifications.

4. Williams Soil Nails & Tie-back Material Approval

Jim Sexton brought up a concern that the Project Engineers weren't allowing soil nails and tie-backs to be installed until all material certifications were available. In some cases, the materials were installed but only after the Contractor submitted a letter of request to the PE. Jim suggested that they should be allowed to install QPL items such as these prior to receiving material certifications. Jeff asked for clarification on why material certifications were required for spacers.

Mo pointed out that the Project Engineer is following the Specifications. However, he agreed that it would be worth looking at this issue more closely. Mo will pull together a small team to investigate this issue and look at possible changes to the Specification.

Action Plan:

- Mo to assemble small team to review this issue.

5. Soldier Pile Paint Rejection

Mark E. has recently had some soldier piles rejected because of the paint. The paint at the burrs on the rolled ends of the pile weren't to Specification. WSDOT required the burr to be ground off and the area repainted. Mark felt this was an unnecessary repair, and he asked for someone to look at this closer. Mo agreed to look into this issue and report back at the next meeting.

Action Plan:

- Mo to investigate and report at next meeting.

6. Owner Specified Soldier Pile Wall Lagging

ADSC believes that the lagging design could be much more efficient. The lagging used on WSDOT projects is much more substantial than what would typically be used on a private project. Where WSDOT requires 12" thick lagging, a typical private job would use 4" or 6" lagging. The ADSC members see this as an opportunity to reduce the cost of soldier pile walls.

Jim C. agreed to investigate what criteria are used by WSDOT Engineers to design lagging. It was suggested that WSDOT could specify the load on the lagging but leave the actual design up to the Contractor.

Action Plan:

- Jim C to investigate and report at the next meeting.

7. PGA Grout Volume Estimates

Mo asked for feedback on how the ADSC Members estimate grout volumes for anchors. This is generally done based on experience. A rule of thumb is to expect a volume of 1.5 to 2.0 times the neat volume. Mo asked if there was a need to include this information in the contract. He asked if this creates difficulty if there is a substantial overrun in grout.

Alan didn't see this as an issue as grout volume is based on measured miles. The ADSC Members occasionally encounter conditions where the grout use significantly exceeds what would be expected. They haven't had difficulty getting compensated for overruns in these situations.

Action Plan:

- No action needed.

8. Issues Related to Shaft Rebar Cage Tolerances

Mo asked the ADSC members for their thoughts on the revisions that were made to shaft rebar cage tolerances last year. There is a concern for the cases where same diameter column and shaft enter into cross-beams or where shaft rebars go into a cap. If the rebar is long, it may interfere with the horizontal cap bars and as such will require repair. Cost responsibility for this repair may become contentious between the agency and the contractor particularly when hooked vertical shaft rebars tails are used. Jeff Grieder suggested that hooked vertical shaft rebars tails must be avoided during design.

Action Plan:

- Mo will relay this information to the Bridge Design for inclusion into the Bridge Design Manual.

9. Workshop Planning Committee Report

Registration begins at 7:00 am, and Alan asked the ADSC Members to meet at 6:15 am to set up. Opening remarks will start at 7:30 am. Mo asked for 15 minutes to make some opening comments.

This year, we are going to have some panel questions prepared in case there are no questions from the audience. Alan asked the Team to submit possible questions to him.

Action Plan:

- No action needed.

Additional Items

The ADSC Members have a meeting set up with Caltrans on May 11. Alan asked if it would be possible for Mo to attend the meeting and discuss the success of the ADSC/WSDOT Joint Task Force. Mo suggested that an invitation should come directly from Caltrans rather than from ADSC. Mo will get back to Alan on whether or not this can be arranged.

Action Plan:

- Mo to let Alan know if he will be able to attend.

Future Meeting Dates

The next meeting is scheduled for May 4th. Future meetings are scheduled for June 22nd and August 10th.